

**Notice of Allowability**

Application No.

10/809,884

Examiner

Leo Boutsikaris

Applicant(s)

SHIOZAKI ET AL.

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application filed on 3/26/04.
2. ☒ The allowed claim(s) is/are 1-14.
3. ☒ The drawings filed on 26 March 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 8/13/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

## DETAILED ACTION

### *Priority*

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Allowable Subject Matter*

Claims 1-14 are allowed.

Claims 1-14 are allowable over the prior art for at least the reason that even though the prior art discloses optical components comprising a concatenated series of a diffraction grating and a prism for multiplexing/demultiplexing incident light, the prior art fails to teach or reasonably suggest an optical component comprising a diffraction grating element in series with a prism, wherein the parameters  $n_0$ ,  $n_1$ ,  $\theta_2$ ,  $\theta_5$ ,  $M_p$ ,  $F_g$ ,  $F_p$ , satisfy the following relationship:

“ $n_1 > n_0$  and  $|\theta_5| > |\theta_2|$ ” or “ $n_1 < n_0$  and  $|\theta_5| < |\theta_2|$ ”, while also satisfy the following relationship:

“ $-2M_p F_g < F_p < 0$ ” or “ $-2M_p F_g > F_p > 0$ ”, as set forth by the claimed combination.

Li (US 5,420,947) and Spaulding (US 5,101,458) disclose optical elements comprising a combination of a prism and a diffraction grating which exhibits achromatic coupling from and into a waveguide. Kondis (US 6,693,745) discloses a combined prism/grating optical element with dispersing characteristics such that the output is athermal, i.e., substantially insensitive to

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changes in the temperature. Finally, Wong (US 2003/0099433), Iida (US 5,457,573) and Chen (US 5,652,681) disclose prism/grating combination optical elements used for angular dispersion in multiplexing/demultiplexing optical systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Leo Boutsikaris whose telephone number is 571-272-2308.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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March 29, 2005



**LEONIDAS BOUTSIKARIS**  
**PRIMARY EXAMINER**